TO REPORT A SUSPECTED HUMAN CASE CONTACT MDCH AT 517-335-8165.

FIGURE 1. CASE DETECTION AND CLINICAL MANAGEMENT DURING THE INTERPANDEMIC AND PANDEMIC ALERT PERIODS

Situation: No human cases of novel influenza are present in the community. Human cases might be present in another country or another region of the United States.

CLINICAL CRITERIA

An illness with **all** of the following:

- Temperature >38° C, *and*
- Cough, sore throat, or dyspnea, *and*
- Requiring hospitalization; or nonhospitalized with epidemiological link[1]

→ If no to **any**, treat as clinically indicated, but reevaluate if suspicion

AND

EPIDEMIOLOGIC CRITERIA

The clinician should ask the patient about the following **within 10 days** of symptom onset:

- History of recent **travel** to an affected area[2] **and** at least one of the following:
  - Direct contact with poultry or poultry products[3], *or*
  - Close contact with a person with suspected or confirmed novel influenza[4], *or*
  - Close contact with a person who died or was hospitalized due to a severe respiratory illness[3]
- Employment in an **occupation** at particular risk for novel influenza exposure, such as:
  - A health care worker in direct contact with a suspected or confirmed novel influenza case, *or*
  - A worker in a laboratory that contains live novel influenza virus, *or*
  - A worker in a poultry farm, live poultry market, or poultry processing operation with known or suspected avian influenza infection

→ If **no** to **both** criteria, treat as clinically indicated, but re-evaluate if suspicion

If **yes** to **either** criterion

- Initiate Standard and Droplet Precautions[5]
- Treat as clinically indicated[6]
- Notify state or local health department about the case[7]
- Initiate general work-up as clinically indicated[8]
- Collect and send specimens for novel influenza virus testing to the state health department or CDC[9]
- Begin empiric antiviral treatment[10]
- Help identify contacts, including HCWs[11]

Novel influenza positive by culture or RT-PCR

- Continue Standard and Droplet Precautions[5]
- Continue antivirals[10]
- Do not cohort with seasonal influenza patients
- Treat complications, such as secondary bacterial pneumonia, as indicated[13]
- Provide clinical updates to health department

All influenza testing negative[12]

- Continue infection control precautions, as clinically appropriate[5]
- Treat complications, such as secondary bacterial pneumonia, as indicated[13]
- Consider discontinuing antivirals, if considered appropriate[10]

Seasonal influenza positive by culture or RT-PCR

- Continue Standard and Droplet Precautions[5]
- Continue antivirals for a minimum of 5 days[10]
- Treat complications, such as secondary bacterial pneumonia, as indicated[13]

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Footnotes to Figure 1:

1. Further evaluation and diagnostic testing should also be considered for outpatients with strong epidemiologic risk factors and mild or moderate illness. (See Box 2).
2. Updated information on areas where novel influenza virus transmission is suspected or documented is available on the CDC website at www.cdc.gov/travel/other/avian_flu_ah5n1_031605.htm and on the WHO website at www.who.int/en/.
3. For persons who live in or visit affected areas, close contact includes touching live poultry (well-appearing, sick or dead) or touching or consuming uncooked poultry products, including blood. For animal or market workers, it includes touching surfaces contaminated with bird feces. In recent years, most instances of human infection with a novel influenza A virus having pandemic potential, including influenza A (H5N1), are thought to have occurred through direct transmission from domestic poultry. A small number of cases are also thought to have occurred through limited person-to-person transmission or consumption of uncooked poultry products. Transmission of novel influenza viruses from other infected animal populations or by contact with fecally contaminated surfaces remains a possibility. These guidelines will be updated as needed if alternate sources of novel influenza viruses are suspected or confirmed.
4. Close contact includes direct physical contact, or approach within 3 feet (1 meter) of a person with suspected or confirmed novel influenza.
5. Standard and Droplet Precautions should be used when caring for patients with novel influenza or seasonal influenza (Table and **Supplement 4**). Information on infection precautions that should be implemented for all respiratory illnesses (i.e., Respiratory Hygiene/Cough Etiquette) is provided at: www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm
6. Hospitalization should be based on all clinical factors, including the potential for infectiousness and the ability to practice adequate infection control. If hospitalization is not clinically warranted, and treatment and infection control is feasible in the home, the patient may be managed as an outpatient. The patient and his or her household should be provided with information on infection control procedures to follow at home (Box 3). The patient and close contacts should be monitored for illness by local public health department staff.
7. Guidance on how to report suspected cases of novel influenza is provided in **Supplement 1**.
8. The general work-up should be guided by clinical indications. Depending on the clinical presentation and the patient's underlying health status, initial diagnostic testing might include:
   - Pulse oximetry
   - Chest radiograph
   - Complete blood count (CBC) with differential
   - Blood cultures
   - Sputum (in adults), tracheal aspirate, pleural effusion aspirate (if pleural effusion is present) Gram stain and culture
   - Antibiotic susceptibility testing (encouraged for all bacterial isolates)
   - Multivalent immunofluorescent antibody testing or PCR of nasopharyngeal aspirates or swabs for common viral respiratory pathogens, such as influenza A and B, adenovirus, parainfluenza viruses, and respiratory syncytial virus, particularly in children
   - In adults with radiographic evidence of pneumonia, *Legionella* and pneumococcal urinary antigen testing
   - If clinicians have access to rapid and reliable testing (e.g., PCR) for *M. pneumoniae* and *C. pneumoniae*, adults and children <5 yrs with radiographic pneumonia should be tested.
   - Comprehensive serum chemistry panel, if metabolic derangement or other end-organ involvement, such as liver or renal failure, is suspected

   See Box 2 for additional details.
9. Guidelines for novel influenza virus testing can be found in **Supplement 2**. All of the following respiratory specimens should be collected for novel influenza A virus testing: nasopharyngeal swab; nasal swab, wash, or aspirate; throat swab; and tracheal aspirate (for intubated patients), stored at 4°C in viral transport media; and acute and convalescent serum samples.
10. Strategies for the use of antiviral drugs are provided in **Supplement 7**.
11. Guidelines for the management of contacts in a healthcare setting are provided in **Supplement 3**.
12. Given the unknown sensitivity of tests for novel influenza viruses, interpretation of negative results should be tailored to the individual patient in consultation with the local health department. Novel influenza directed management may need to be continued, depending on the strength of clinical and epidemiologic suspicion. Antiviral therapy and isolation precautions for novel influenza may be discontinued on the basis of an alternative diagnosis. The following criteria may be considered for this evaluation:
    - Absence of strong epidemiologic link to known cases of novel influenza
    - Alternative diagnosis confirmed using a test with a high positive-predictive value
    - Clinical manifestations explained by the alternative diagnosis
13. Guidance on the evaluation and treatment of suspected post-influenza community-associated pneumonia is provided in Appendix 3.

APPENDIX 3. CDC HUMAN INFLUENZA A(H5) CASE SCREENING AND REPORT FORM

Human Influenza A (H5)

Human Influenza A (H5) Domestic Case Screening Form

CDC Case ID:

1. Reported By

Date reported to state or local health department: __ __ / __ __ / __ __ __ __ (m m d d y y y y)	State/ local Assigned Case ID:
Last Name:	First Name:
State:	Affiliation:	Email:
Phone 1:	Phone 2:	Fax:

2. Patient Information

City of Residence: County: State:

Age at onset: _____ ☐ Year(s) ☐ Month(s)

Race: *(Choose One)*
☐ American Indian/Alaska Native ☐ White
☐ Asian ☐ Unknown
☐ Black
☐ Native Hawaiian/Other Pacific Islander

Sex: ☐ Male ☐ Female

Ethnicity: ☐ Non Hispanic ☐ Hispanic

3. Optional Patient Information

Last Name: First Name:

4. Signs and Symptoms

A. Date of symptom onset: __ __ / __ __ / __ __ __ __ (m m d d y y y y)

B. What symptoms and signs did the patient have during the course of illness? (check all that apply)

☐ Fever > 38° C (100.4° F) ☐ Feverish (temperature not taken) ☐ Conjunctivitis

☐ Cough ☐ Headache ☐ Shortness of breath

☐ Sore throat ☐ Other (specify): _____

C. Was a chest X-ray or chest CAT scan performed? ☐ Yes* ☐ No ☐ Unknown

If yes*, did the patient have radiographic evidence of pneumonia or respiratory distress syndrome (RDS)? ☐ Yes* ☐ No ☐ Unknown

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DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION
SAFER • HEALTHIER • PEOPLE™

Epidemiologic Risk Factors

CDC Case ID:

5. Travel/Exposures

A. In the 10 days prior to illness onset, did the patient travel to any of the countries listed in the table below? If yes*, please fill in arrival and departure dates for all countries that apply. ☐ Yes* ☐ No** ☐ Unknown

****If patient did not travel outside U.S., skip to question 6.**

Country	Arrival Date	Departure Date	Country	Arrival Date	Departure Date
☐ Afghanistan			☐ Myanmar (Burma)		
☐ Bangladesh			☐ Nepal		
☐ Brunei			☐ North Korea		
☐ Cambodia			☐ Oman		
☐ China			☐ Pakistan		
☐ Hong Kong			☐ Papua New Guinea		
☐ India			☐ Philippines		
☐ Indonesia			☐ Saudi Arabia		
☐ Iran			☐ Singapore		
☐ Iraq			☐ South Korea		
☐ Israel			☐ Syria		
☐ Japan			☐ Taiwan		
☐ Jordan			☐ Thailand		
☐ Laos			☐ Turkey		
☐ Lebanon			☐ Viet Nam		
☐ Macao			☐ Yemen		
☐ Malaysia					

For the questions 5B to 5E,
In the 10 days prior to illness onset, <u>while in the countries</u> listed above . . . .

B. Did the patient come within 1 meter (3 feet) of any live poultry or domesticated birds (e.g. visited a poultry farm, a household raising poultry, or a bird market)? ☐ Yes* ☐ No ☐ Unknown

If Yes*

C. Did patient touch any recently butchered poultry? ☐ Yes ☐ No ☐ Unknown

D. Did the patient visit or stay in the same household with anyone with pneumonia or severe flu-like illness? ☐ Yes ☐ No ☐ Unknown

E. Did the patient visit or stay in the same household with a suspected human influenza A(H5) case?* ☐ Yes ☐ No ☐ Unknown

F. Did the patient visit or stay in the same household with a known human influenza A(H5) case?* ☐ Yes ☐ No ☐ Unknown

** SEE Influenza A (H5): Interim U.S. Case Definitions*

(continued from previous page)

CDC ID:

6. Exposure for Non Travelers	
For patients whom did not travel outside the U.S., **in the 10 days prior to illness onset**, did the patient visit or stay in the same household with a traveler returning from one of the countries listed above who developed pneumonia or severe flu-like illness?	☐ Yes* ☐ No ☐ Unknown
If yes*, was the contact a confirmed or suspected H5 case patient?	☐ Yes* ☐ No ☐ Unknown
If yes*: CDC ID: _____ STATE ID: _____	

Laboratory Evaluation

7. State and local level influenza test results	
Specimen 1	
☐ NP swab ☐ Broncheoalveolar lavage specimen (BAL) ☐ NP aspirate ☐ OP swab ☐ Other _____	Date Collected: __ __ / __ __ / __ __ __ __ m m d d y y y y
Test Type: ☐ RT-PCR ☐ Direct fluorescent antibody (DFA) ☐ Viral Culture ☐ Rapid Antigen Test* *Name of Rapid Test:	Result: ☐ Influenza A ☐ Influenza B ☐ Influenza (type unk) ☐ Negative ☐ Pending
Specimen 2	
☐ NP swab ☐ Broncheoalveolar lavage specimen (BAL) ☐ NP aspirate ☐ OP swab ☐ Other _____	Date Collected: __ __ / __ __ / __ __ __ __ m m d d y y y y
Test Type: ☐ RT-PCR ☐ Direct fluorescent antibody (DFA) ☐ Viral Culture ☐ Rapid Antigen Test* *Name of Rapid Test:	Result: ☐ Influenza A ☐ Influenza B ☐ Influenza (type unk) ☐ Negative ☐ Pending
Specimen 3	
☐ NP swab ☐ Broncheoalveolar lavage specimen (BAL) ☐ NP aspirate ☐ OP swab ☐ Other _____	Date Collected: __ __ / __ __ / __ __ __ __ m m d d y y y y
Test Type: ☐ RT-PCR ☐ Direct fluorescent antibody (DFA) ☐ Viral Culture ☐ Rapid Antigen Test* *Name of Rapid Test:	Result: ☐ Influenza A ☐ Influenza B ☐ Influenza (type unk) ☐ Negative ☐ Pending

(continued from previous page)

CDC ID:

8. List specimens sent to the CDC

Select a SOURCE* from the following list for each specimen: Serum (acute), serum (convalescent), NP swab, NP aspirate, broncheoalveolar lavage specimen (BAL), OP swab, tracheal aspirate, or tissue

Specimen 1: ☐ Clinical Material ☐ Extracted RNA ☐ Virus Isolate	Source*: ----------	Collected : __ __ / __ __ / __ __ __ __ (m m d d y y y y) Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Specimen 2: ☐ Clinical Material ☐ Extracted RNA ☐ Virus Isolate	Source*: ----------	Collected : __ __ / __ __ / __ __ __ __ (m m d d y y y y) Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Specimen 3: ☐ Clinical Material ☐ Extracted RNA ☐ Virus Isolate	Source*: ----------	Collected : __ __ / __ __ / __ __ __ __ (m m d d y y y y) Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Specimen 4: ☐ Clinical Material ☐ Extracted RNA ☐ Virus Isolate	Source*: ----------	Collected : __ __ / __ __ / __ __ __ __ (m m d d y y y y) Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Specimen 5: ☐ Clinical Material ☐ Extracted RNA ☐ Virus Isolate	Source*: ----------	Collected : __ __ / __ __ / __ __ __ __ (m m d d y y y y) Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Carrier:	Tracking #:	

9. Case Notes:

Influenza A (H5) Domestic Case Screening Form 1.0
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CDC ID:

CDC Contact Information (FOR CDC USE ONLY)	
Case status and date status applied: ☐ Clinical Case (lab results pending) __ __ / __ __ / __ __ __ __ (m m d d y y y y) ☐ Influenza A pos. Case (subtype pending) __ __ / __ __ / __ __ __ __ (m m d d y y y y) ☐ Confirmed Case __ __ / __ __ / __ __ __ __ (m m d d y y y y)	☐ Ruled Out/Non-Case: __ __ / __ __ / __ __ __ __ (m m d d y y y y) Reason: ☐ Influenza A neg. (by PCR, viral culture, or influenza A serology) ☐ Non-H5 Influenza Strain ☐ Other etiology* ☐ Did not meet case definition
Date Entered by CDC: __ __ / __ __ / __ __ __ __ (m m d d y y y y)	Contact Date: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Name of CDC Contact:	

*Alternative Diagnosis			
A. Was an alternative non-influenza respiratory pathogen detected? If yes* specify:	☐ Yes*	☐ No	☐ Unknown
B. Was there a diagnosis other than respiratory infection? If yes* specify:	☐ Yes*	☐ No	☐ Unknown

FORM COMPLETED BY _____

PHONE NUMBER _____

IMMEDIATLEY FAX COMPLETED FORM TO MDCH AT 517-335-8263

AFTER 5 P. M. AND WEEKENDS CALL 517-335-9030

February 19, 2004